

REMARKS

Claims 1 to 12 were pending when last examined. Applicant has amended claims 1, 4, 8 to 11, and added claims 13 to 20.

Double Patenting

The Examiner provisionally rejected claims 1 to 12 under 35 U.S.C. § 101 as claiming the same invention as that of claims 1 to 12 of co-pending U.S. Patent Application No. 10/648,551. Applicant has expressly abandoned U.S. Patent Application No. 10/648,551 to overcome the double patenting rejection. A copy of the express abandonment is attached for the Examiner.

§ 102 Rejections

The Examiner rejected claims 1 to 12 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,686,639 ("Tsai"). Applicant respectfully traverses.

Claim 1 is patentable over Tsai for at least reciting "a beam structure having one end connected to a plurality of locations on the scanning mirror" and "a spring having one end connected to the beam structure." Claim 1. Fig. 1B illustrates an example of this limitation where a proximate end of a beam structure 103A is connected to a mirror 101 at two support attachments 102, and a spring (any one of springs 105A to 105D) is connected to beam structure 103A. As described in the Specification, dynamic deformation of mirror 101 is reduced by support attachments 102. Specification, paragraphs 10 and 20.

Tsai does not disclose a beam structure connected to multiple locations on a mirror and a spring connected to the beam structure. Fig. 1 of Tsai and its related text disclose two torsion springs 143 directly connected to a mirror 141, and Fig. 4 of Tsai and its related text disclose two torsion springs 443 directly connected to a mirror 441. Fig. 5 of Tsai and its related text disclose bending springs 543, 544, 545, 546 directly connected to a mirror 541. As Tsai does not disclose a beam structure connected to a mirror, Tsai cannot disclose "a beam structure having one end connected to a plurality of locations on the scanning mirror" as recited in claim 1 (emphasis added). Accordingly, claim 1 is patentable over Tsai.

Claims 2 to 7 depend from claim 1 and are patentable over Tsai for at least the same reasons as claim 1.

Claim 8 is patentable over Tsai for at least reciting "a plurality of torsion springs each having one end connected to the beam structure, wherein the torsion springs are aligned along a rotational axis of the scanning mirror." Claim 8. Fig. 1B illustrates an example of this limitation where torsion springs 105A to 105D are connected to beam structure 103A so they align along rotational axis X of mirror 101.

As described above regarding claim 1, Figs. 1 and 4 of Tsai disclose torsion springs directly connected to a mirror, and Fig. 5 of Tsai discloses bending springs 543, 544, 545, 546 (instead of torsion springs) directly connected to mirror 541. Fig. 5 of Tsai further illustrates that bending springs 543, 544, 545, 546 are not aligned along the rotational axis of mirror 541. Instead, bending springs 543/544 and bending springs 545/546 are located on opposite sides of the rotational axis in order to achieve the rotational (and translational) motion of mirror 541. Accordingly, claim 8 is patentable over Tsai for at least reciting "a plurality of torsion springs each having one end connected to the beam structure, wherein the torsion springs are aligned along a rotational axis of the scanning mirror." Claim 8.

Claims 9 to 12 depend from claim 8 and are patentable over Tsai for at least the same reasons as claim 8.

New claims


New claim 13 depends from claim 1 and new claim 14 depends from claim 8. Accordingly, claims 13 and 14 are patentable over Tsai for at least the same reasons as their base claims.

New claim 15 recites "a plurality of torsion springs connected to the beam structure along its length, wherein the torsion springs are oriented along a rotational axis of the scanning mirror." Claim 15. As described above, Tsai does not disclose torsion springs connected to the beam structure along its length where the torsion springs are aligned along the rotational axis of the mirror. Accordingly, claim 15 is patentable over Tsai.

Claims 16 to 20 depend from claim 15 and are patentable over Tsai for at least the same reasons as claim 15.

In summary, claims 1 to 12 were pending in the above-identified application when last examined. Applicant has amended claims 1, 4, and 8 to 11, and added claims 13 to 20. For the above reasons, Applicant respectfully requests the Examiner to withdraw the rejections and allow

claims 1 to 20. Should the Examiner have any questions, please call the undersigned at (408) 382-0480x206.

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Respectfully submitted,



David C. Hsia

Attorney for Applicant(s)

Reg. No. 46,235